

**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. C SHEET 1 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	

**RELEASED**  
98/09/17 DS

QTY	Part Number	Description
X	D2580-041	SKIDTUBE ASSEMBLY
*	D2500-1	EXTRUSION
1	D2596	205 WEB
1	D2575	AFT CAP
1	D2576 - 3	STEP
20	D2579	CROSS BOLT SPACER
16	D2594-1	PLUG
16	D2594-3	O-RING
1	D2577-1	WEARSHOE
1	D2577-3	WEARSHOE
1	D2577-5	WEARSHOE
44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
46	AN3-4A	BOLT
46	AN960JD10L	WASHER

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES \*
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL  $\varnothing 0.297$  HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (44 PLACES) AFTER FINISH. INSTALL AN3-4A BOLTS AND AN960JD10L WASHERS WITH SIKAFLEX-241.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

EFFECTIVE DEOS  
98/12/14  
DEO 9124  
DED 9183



A technical drawing of the underside of a component labeled "D2576". The component has an elongated, rounded rectangular shape with several small oval features. Labels with leader lines point to specific areas: "GRIND FLUSH (4 PLACES)" points to four locations along the top edge; "GRIND FLUSH" points to a location on the left side; "LOCATION RIDGE ON UNDERSIDE OF D2576" points to a raised area on the right side; and another "GRIND FLUSH" label points to a location near this ridge. A dimension line at the bottom right indicates a width of  $\frac{1}{4}$ .

DRILL PRIOR TO D2575 CAP  
 INSTALLATION (2 PLACES)

AN3-4A BOLT (1)  
 AN960JD10L WASHER (1)  
 (2 PLACES)

D2575 CAP

SEAL WITH SIKAFLEX-241

0.208

0.40

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)  
(TYP 44 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.508$  HOLES ONLY:

1. CHAMFER HOLE  $0.050 \times 45^\circ$
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO  $\phi 0.437 \times 1.00$  DEEP

Technical drawing of a bridge deck cross-section showing reinforcement details. The drawing includes dimensions for the deck width (190.0), reinforcement spacing (8.188), and various offsets (37.50, 1.750, 8.750, 17.375, 26.000, 34.188, 57.313). It also shows the location of reinforcement bars (Ø0.508) and references to Detail A.

Key dimensions and labels:

- 37.50: Distance to aft end of D2596 web.
- 1.750: Offset dimensions.
- 8.750: Offset dimension.
- 17.375: Offset dimension.
- 26.000: Offset dimension.
- 34.188: Offset dimension.
- 57.313 (REF): 7 equal spaces, 8.188 pitch.
- Ø0.508 (TYP.) (40 PLACES): Reinforcement bar size and quantity.
- REFER TO DETAIL A: Reference to reinforcement detail A.
- 190.0 (D2500-1): Total deck width.

WELD AS PER DETAIL B

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

0.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5






REFER TO DETAIL C

AN3-4A BOLT (1)  
AN960JD10L WASHER (1)  
(44 PLACES)

D2577-3 D2577-5 D2577-1

8

RELEASED  
98/09/17 DS

DESIGN 	DRAWN BY 	 <b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D2580	REV. C SHEET 2 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24



DESIGN <i>DA</i>	DRAWN BY <i>DA</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>CP</i>	APPROVED <i>KE</i>	DRAWING NO. DEO 9124	REV. A SHEET 1 OF 1
DATE 98.12.12		TITLE CHANGE TO AFT CAP	SCALE NTS
A	98.12.12	NEW ISSUE	

## DART ENGINEERING ORDER

AMENDS DRAWING D2580 REV. C  
AMENDS DRAWING D2590 REV. C

REPLACE: (1) D2575 CAP (SPUN)  
(2) AN3-4A BOLT

WITH: (1) D2855 CAP (CASTING)  
(2) AN3-5A BOLT

Superseded

RELEASED  
98.12.14 DS



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. DEO 9183	REV. B SHEET 1 OF 1
DATE 00.05.15		TITLE ADD SKIDTUBE P/N D2580-045	SCALE NTS
A	00.03.29	NEW ISSUE	
B	00.05.15	39.580 WAS 39.620	

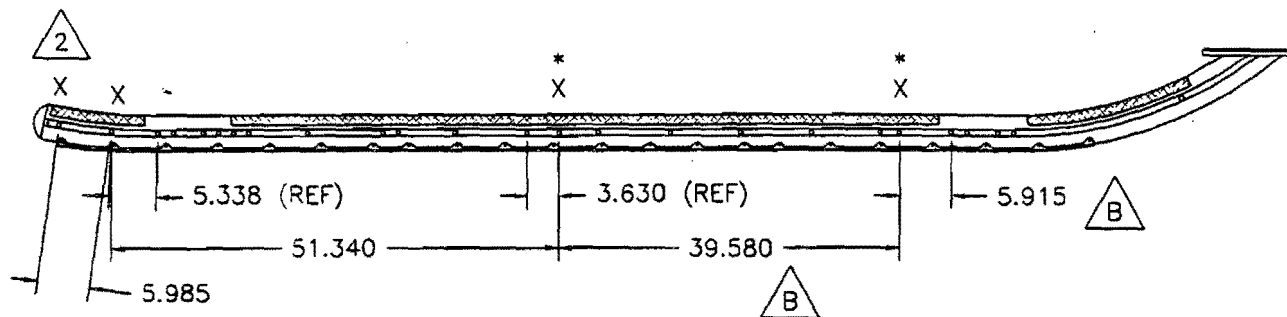
RELEASED  
00.05.15 #

## DART ENGINEERING ORDER

AMEND DRAWING D2580 REV. C TO ADD D2580-045 ASSEMBLY

D2580-045 IS IDENTICAL TO D2580-041, EXCEPT FOR THE FOLLOWING CHANGES:

- 1) INSTALL CROSS BOLT SPACERS AT LOCATIONS MARKED 'X' ACCORDING TO THE FOLLOWING PROCEDURE.
  - a) DRILL  $\varnothing 0.508$  HOLES AT LOCATIONS SHOWN BELOW MARKED 'X'. CHAMFER HOLES  $0.030 \times 45^\circ$ . NOTE THAT HOLES WILL ALSO HAVE TO BE TRANSFERRED TO THE D2596 WEB AT THE \* LOCATIONS. IT IS ACCEPTABLE TO PRE-DRILL THE D2596 WEB IN THESE LOCATIONS BEFORE INSTALLING THE WEB IN THE SKIDTUBE. OPEN HOLES TO  $\varnothing 0.63$  AND TOUCH UP WITH ALODINE PER QSI 005 4.1.
  - b) INSERT D2579 CROSS BOLT SPACERS INTO THE HOLES.
  - c) WELD INTO PLACE PER DART QSI 004 AND GRIND FLUSH.
  - d) REMOVE SPILL OVER LEAVING HOLE DIMENSION  $\varnothing 0.380$ - $\varnothing 0.390$ .
- 2) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION.
- 3) POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 INSTEAD OF WHITE (REF. 4.3.5.1).



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